

Preliminary and partial presentation of

GLACIER INVENTORY

Southern Norway



THE NORWEGIAN WATER RESOURCES AND ELECTRICITY BOARD

GLACIOLOGY SECTION

1969

PREFACE

Various attempts have been made to determine the total area covered by "permanent snow and ice" in Norway. Most of this work was based upon old maps at a scale of 1:200 000 or smaller, which in connection with the bad cartographic representation of high-mountain areas, gave results of doubtful value for scientific purposes.

The best inventory to date was made by O. Liestøl about 1960; the result is published as a "List of the areas and number of glaciers" in Hoel and Werenskiöld (1962, p. 35-54).

For engineering purposes, particularly for the modern planning of hydro-electric power stations in mountain areas it is necessary to take into account the existence of glaciers when calculations are made of expected water discharge. During the last years more and more high-mountain drainage basins in Norway are being utilized for power production, and, as melt water from glaciers contribute significantly to the river discharge, it is obviously of great importance to have adequate knowledge about the glacier areas and the glacier mass balance.

For this reason detailed glacio-hydrological investigations were started in Norway in 1962 (Østrem 1964). They generally comprise mass-balance measurements, meteorological observations, ice movement studies, river discharge and sediment transport measurements. The work is carried out at a limited number of selected glaciers that are considered representative for certain mountain basins. To extend the hydrological results from these investigations to other glacierized areas, it is necessary to know the exact location and size of all glaciers in the area.

Therefore, a detailed glacier inventory was started in January 1969. The present publication was prepared to demonstrate the methods and to give some preliminary results for further discussion

Oslo, 29 August 1969



Gunnar Østrem
Glaciology Section

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PREFACE

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LITERATURE

INTRODUCTION TO INVENTORY OF SURFACE SNOW AND ICE IN SOUTH NORWAY

Present stage of inventory

Work is presently nearing its completion on a detailed inventory of surface snow and ice in South Norway. The following presentation of maps and tables constitute the first part of the inventory and give details on glaciers and glacierettes that contribute to the river systems draining eastwards in South Norway. In addition a map and some tables with particulars of Jostedalsbreen are presented.

Source material for the inventory

Earlier suggestions for guides to similar types of inventories that have come forward under The International Hydrological Decade have provided valuable guidelines for the work at hand. (Müller 1969, Ommanney et. al. 1969).

The source material for the inventory has been existing topographical map series in scales 1:50 000 and 1:100 000 together with aerial photographs.

The AMS M717 map series, scale 1:50 000, have mainly been used in the registration and for the associated measurements. In certain cases, special glacier maps and local maps existed and they have then been used. It should be pointed out that the 1:50 000 series differ in quality between individual map sheets because some of these maps are based on enlargements of maps from old plane-table surveys at a scale of 1:100 000, while others are a result of modern high-accuracy photogrammetric construction. In the North-Western part of South Norway there are glacierized areas where no reliable maps are available.

In order to make the basic source material more homogeneous and reliable, the information about snow and ice shown on the maps was revised by simple construction methods from available aerial photographs taken in the period 1958 - 68. In a few cases where this coverage was insufficient, copies from the 1955 AMS South Norway photography were used. This revision of snow and ice information was carried out

by means of a pentaprism, The Zeiss LUZ Aero-Sketchmaster.

Although the basic map material thus has been improved, differences of quality in the source material still exist and this is reflected in the accuracy ratings of individual measurements as shown in the tables. The recognition of what is, and what is not, glacier or perennial snow-field, is generally a matter of subjective judgement. To some extent it also depends on the quality of the photography. Index maps giving detailed information about source material will accompany the final presentation of the inventory.

Storing of the obtained data

The measured data has been stored on punch cards to facilitate further processing of the obtained measurements. Each individual glacier, glacierette or subdivision of a larger glacier has its related information on one punch card. Hence, one card represents one identified unit in the inventory. Ice-caps and glaciers with common accumulation areas are represented by more than one card.

Organization and presentation of data.

The accompanying tables are direct outprints of the punch cards. Each table is accompanied by a 1:250 000 glacier map for reference. These maps can further be related to the 1:250 000 AMS 515 series which cover all of Norway, for reference to other detail than glaciers.

Drainage basins as reference areas for the inventory.

The individual glaciers, glacierettes and subdivisions of larger glaciers are in the inventory organized numerically in relation to the natural drainage basin to which they contribute with their meltwater. Drainage diversions due to hydro-electric power development etc. are thus not considered in the inventory, but only referred to by subnotes in the tables, and by symbols on the maps. Each unit is allotted a number between 0 and 99. The numbering begins with the unit nearest to the outlet of the basin on the right hand side of the direction of flow. Rising numbers then follow clockwise for each identified unit

along the drainage system. If a drainage system contains more than 99 units it is subdivided into smaller basins of favourable size, and numbers are allotted similarly.

Special presentation of large composite glaciers.

In special cases larger glaciers were subdivided and presented only partially because they drain through several separate individual basins. It is the intention, however, to repeat details of the composite glaciers (and ice-caps) in the form of a summary table where all the components of the larger unit will appear together. The Jostedalsbreen table is shown as a sample in the present volume.

Explanation to the tables and brief remarks about measurements.

Column heading

Comments

BASIN IDENT

This is a first and so far undeveloped attempt of a numerical drainage basin identification system. In the "Vassdragsregister" of the Norwegian Water Resources and Electricity board, every major drainage basin with outlet to the sea has been allotted a number. The numbering starts in the south at the Swedish border; rising numbers follow clockwise along the coast. Stretches of coastline with minor streams have been allotted similar numbers.

The system can be developed further to identify sub-basins as suggested in earlier mentioned guides to snow and ice inventories.

WATER GAUGE No. The glacier unit is here related to the identification number of the nearest water gauge downstream from the glacier in the drainage system. These are also displayed on the glacier index map.

GLAC. No.

The numbers identify the glacier units in the drainage system and are of special value

for cross reference between columns in the table and glaciers plotted on the glacier index map.

GLAC. NAME	The name of the glacier unit, or the name of the larger entity of which it may be a part, is quoted if it is known. In many cases an abbreviated form has been used.	
LONGIT AND LATIT	The longitude and latitude of a near central point of the glacier is quoted with an average accuracy of 10".	
UTM	The glacier unit is related to the one-km square of the Universal Transverse Mercator reference system, in which it is situated (or, for larger glaciers, the square that is located at its centre).	
ORIENTAT	The orientation of the main area of exposure of the accumulation and ablation areas, respectively, are quoted in one of the 8-point compass directions.	
ELEVATIONS M A S L	These columns refer to parameters defined by elevations in metres above sea level for each measured unit. The parameters are:	
HIGH LOW	The highest and lowest altitude of the glacier unit as measured from the revised map. An accuracy rating (AR) accompanies each set of measurements.	
A R	The AR (accuracy rating) is specified with a value, the significance of which is stated below:	

1. Exellent	Error	0-25 m
2. Good	"	25-50 m
3. Fair	"	50-100 m

- | | | |
|---------------|-------|------------|
| 4. Acceptable | Error | 100-200 m |
| 5. Unreliable | " | over 200 m |

TSL

Where it has been possible to identify the transient snow line from the aerial photographs, the measured elevation of this is quoted together with the day, month and year of photography, given in a 6-place number group. An accuracy rating is also given with the same error limits as above.

LENGTH

This parameter is quoted in kilometers and refers to the length of the glacier along its line of flow. The listed length is often unreliable since the irregular shape of many glaciers lead to ambiguities. Furthermore, the measurements were generally made on maps that, of course, give only the horizontal projection of glacier length.

REMARKS

A special standardized remarks-code has been used, the key is presented below:

- M U Map unreliable in the area where the glacier is, or should be, displayed.
- P S F Possible Snow Field. It is often hard to decide whether a certain area is a large snow field or a real glacier. Evidence of movement (crevasses, silty melt water etc.) may be obscured, so PSF is then indicated.
- B The measured unit is the lower part of an interrupted (regenerated) glacier below the main glacier.
- W S The glacier is situated on a Water Shed and drains in more than one direction. (The quoted accumulation area orientation is a mean direction of exposure).
- S W S The measured unit is a Subdivision of a larger glacier unit.

J B The measured unit is a Subdivision of the Jostedalsbreen Ice Cap.

H J The measured unit is a Subdivision of the Hardangerjøkulen Ice Cap.

SPEC INVESTIG The measured unit is subject to special investigations (i. e. mass balance measurements, etc.)

AREA The areas of the glacier units have been measured with a ordinary planimeter and are given in square kilometers. The quoted values for the areas refer, as far as possible, to the area of active ice. A reservation must be made as an exact identification of this active area was in many cases very difficult. It should also be noted that the given area is the horizontal projection of an irregular surface. An accuracy rating (AR) accompanies each measurement and is specified with a figure that has the following meaning:

1. Exellent	Error	0-5%
2. Good	"	5-10%
3. Fair	"	10-15%
4. Acceptable	"	15-25%
5. Unreliable	"	over 25%

Summary Tables

Besides the outprints from the puch cards, two summary tables for two selected areas, Bøvra drainage basin and Jostedalsbreen ice-cap, are shown in this publication.

In Table 1 it is listed all river discharge stations in the basin (first column) and their individual drainage areas (second coumn). The glacierized areas have been added for each discharge station and the sum is

presented in the third column. Finally, the percentage of glacier coverage is computed for each discharge station and given in the last column.

Because present information is incomplete for some water gauges the last column may be misleading. It is, however, included here to show the intended use of the collected glacier data for this kind of computation which is of direct practical importance for engineering purposes.

NOTE: In cases where the drainage area for a discharge station is not yet known, the figure "100.00" (sq. km) is provisionally plotted in the table.

In Table 2 the number and total area of all glaciers with equal ablation area orientation are listed. This makes 8 sums which then have been computed as percentages of the total glacierized area in the basin under consideration (or for the ice cap).

Final remarks.

The present inventory is of a relatively simple nature. However, it provides a framework that can be extended further. Summaries of data and some additional analyses will definitely be carried out before the material is finally published, whereas morphological classification and description of glaciers as suggested by Müller (1969) may be a future step.

GLACIERS IN THE GLOMMA DRAINAGE-BASIN

Basin number: 5

Brekart for nedbørfelt:

Glacier map of drainage area :

BYGDIN

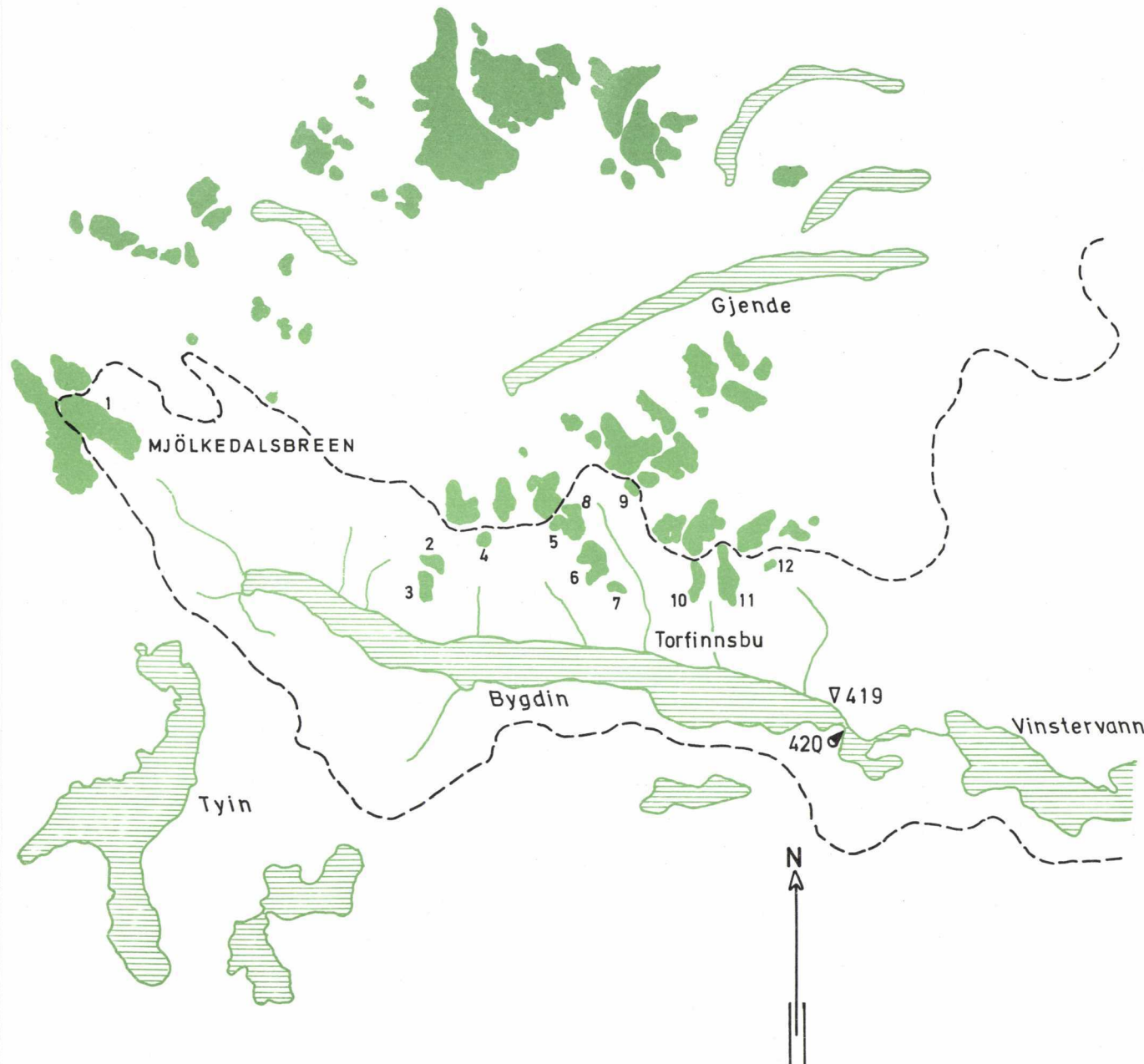
Tegnforklaring (Legend):

- 5 Bre (Glacier)
- Vannskille (Watershed)
- Overføring (Diverted water)
- ▽ Vannmerke (Discharge station)
- ▽ Limnigraf (Recording discharge station)
- ▽ Magasinmerke (Water stage gauge)
- ▼ Registr. magasinmerke (Stage recorder)

Målestokk (Scale)

1:250 000

0 5 10 15 20 km



GLACIER INVENTORY - SOUTHERN NORWAY

REFERENCE RIVER BASIN BYGDIN
DRAINAGE AREA 611.00 KM²

BASIN IDENT	WATER GAGE- NO	GLAC NO	GLAC NAME	LONGIT	LATIT	UTM	ORIENTAT ACC ABL AREA AREA	ELEVATIONS HIGH LOW	M A S L A TSL	DATE	LENGTH KM	AREA KM ²	REMARKS
5	L 420	1	MJØLKDAL	81130	612555	32VMP5611	SE SE	1830 1330	3 1550	11065 3	3.6	3.54	3
5	L 420	2		82630	612310	32VMP7005	N N	2600 2800	4 Y	0 0	.6	.41	4
5	L 420	3		82620	612240	32VMP7005	SE SE	2570 2430	4 Y	0 0	1.1	.44	4
5	L 420	4		82900	612330	32VMP7206	SW SW	1900 1620	5 Y	0 0	.6	.21	5
5	L 420	5		83330	612350	32VMP7507	SW SW	2130 1890	4 Y	0 0	.6	.63	4
5	L 420	6		83150	612310	32VMP7606	S SW	2100 1840	4 Y	0 0	1.0	1.10	4
5	L 420	7		83500	612240	32VMP7705	NE NE	2000 1680	4 Y	0 0	.3	.14	4
5	L 420	8		83250	612410	32VMP7608	NE NE	2130 1680	4 Y	0 0	1.0	.54	4
5	L 420	9		83520	612450	32VMP7809	S S	2140 1850	4 1930	11065 4	.6	.15	4
5	L 420	10	W.KALVÅH	83830	612250	32VMP8005	S S	2000 1800	4 Y	0 0	1.5	.64	4
5	L 420	11	E.KALVÅH	83950	612250	32VMP8205	SE S	2060 1600	4 Y	0 0	2.4	1.13	4
5	L 420	12		84150	612310	32VMP8306	NE NE	0 0	5 Y	0 0	.5	.10	4 MU

Brekart for nedbørfelt:

Glacier map of drainage area :

SJOA

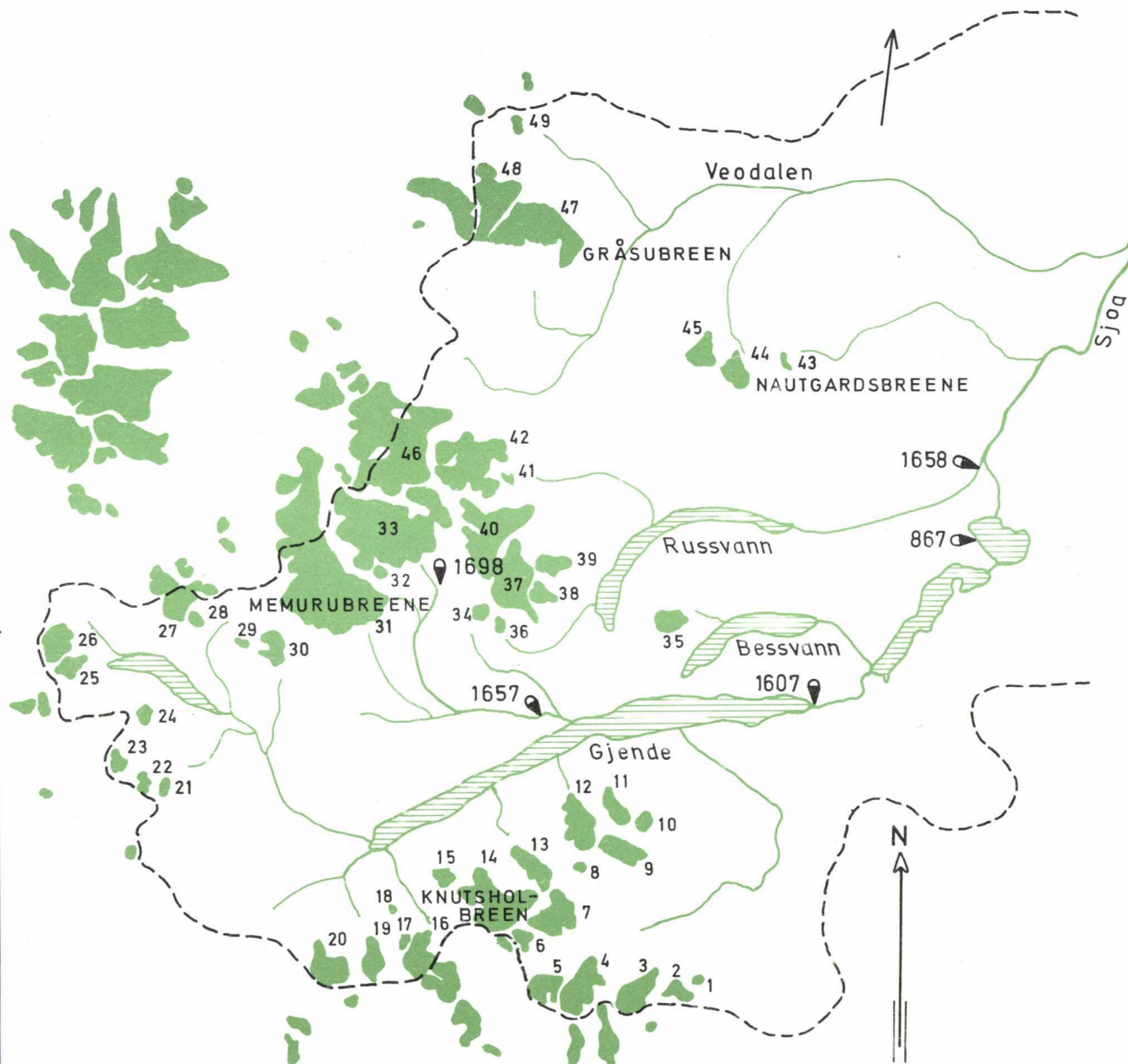
Tegnforklaring (Legend):

-  5 Bre (Glacier)
-  Vannskille (Watershed)
-  Overføring (Diverted water)
-  Vannmerke (Discharge station)
-  Limnigraf (Recording discharge station)
-  Magasinmerke (Water stage gauge)
-  Registr. magasinmerke (Stage recorder)

Målestokk (Scale)

1:250 000

0 5 10 15 20 km



GLACIER INVENTORY - SOUTHERN NORWAY

REFERENCE RIVER BASIN SJØA
DRAINAGE AREA 1518.00 KM2

BASIN IDENT	WATER GAGE- NO	GLAC NO	GLAC NAME	LONGIT	LATIT	OTA	ORIENTAT ACC ABL AREA AREA	ELEVATIONS M A S L HIGH LOW R TSL	DATE	LENGTH A R KM	AREA KM2	A R	REMARKS
5	L1607	1		84440	612410	32VMP8507	E E	2000 1800 4 Y	0 0	.3	.07	4	
5	L1607	2		84230	612350	32VMP8507	N N	2000 1830 4 Y	0 0	.5	.40	4	
5	L1607	3	STEINDAL	84190	612350	32VMP8307	NE NE	1980 1650 4 1800	11065 3	2.2	1.36	4	WS
5	L1607	4	LEIRUGS	83830	612350	32VMP8007	NE NE	2050 1290 4 Y	0 0	2.3	1.89	4	
5	L1607	5		83700	612350	32VMP7907	SW NW	2000 1590 4 1710	11065 4	1.2	1.03	4	
5	L1607	6		83600	612500	32VMP7809	SE S	2100 1800 4 Y	0 0	.8	.31	4	
5	L1607	7	SKARVJ.L	83740	612520	32VMP8070	SE SE	2160 1710 4 Y	0 0	1.1	1.74	4	MU
5	L1607	8	S.TJ.HOL	83840	612630	32VMP8012	SE SE	2050 1850 4 1950	11065 4	.4	.13	4	
5	L1607	9	STEINFLY	84030	612650	32VMP8212	SE SE	2050 1900 4 Y	0 0	1.8	1.16	4	
5	L1607	10		84130	612720	32VMP8313	NE NE	2050 1800 4 Y	0 0	.8	.37	4	
5	L1607	11		84010	612740	32VMP8214	N N	2050 1600 4 Y	0 0	1.5	.68	4	
5	L1607	12	N.TJ.HAL	83830	612720	32VMP8013	N N	2240 1531 4 1700	11065 4	2.1	1.73	4	
5	L1607	13	SKARVFLY	83630	612620	32VMP7812	NE NE	1950 1670 4 1800	11065 4	.9	1.11	4	
5	L1607	14	KNUTSHOL	83500	612540	32VMP7710	N N	2100 1550 4 1800	11065 4	2.5	3.40	4	
5	L1607	15		83240	612610	32VMP7511	N N	2100 1750 4 1800	11065 4	.9	.36	4	
5	L1607	16		83140	612430	32VMP7408	N NE	2150 1500 4 1600	11065 4	2.0	1.27	4	B
5	L1607	17		83100	612450	32VMP7409	E E	2030 1800 4 Y	0 0	.4	.15	5	
5	L1607	18		83040	612530	32VMP7310	N N	2050 1900 4 Y	0 0	.2	.05	5	
5	L1607	19	LANGEDAL	83020	612440	32VMP7308	NE N	1800 1470 4 1650	11065 4	1.6	.96	4	
5	L1607	20	SLETTMOK	82740	612420	32VMP7108	N N	2050 1600 4 1750	11065 4	2.0	1.30	4	
5	L1607	21		82030	612710	32VMP6515	NE NE	1860 1590 4 1680	11065 4	.8	.23	4	
5	L1607	22		81950	612710	32VMP6415	N NE	1860 1590 4 1650	11065 4	.6	.38	4	
5	L1607	23		81840	612730	32VMP6315	N NE	1850 1500 4 1600	11065 4	.6	.35	4	
5	L1607	24		81950	612930	32VMP6417	N NE	2000 1650 4 Y	0 0	.8	.27	4	
5	L1607	25	S.HÖGVGL	81030	613020	32VMP6119	NE NE	2050 1600 4 Y	0 0	1.3	.63	4	

NOTE : This basin is affected by drainage diversion due to hydroelectric power development

GLACIER INVENTORY - SOUTHERN NORWAY

REFERENCE RIVER BASIN SJØDA
DRAINAGE AREA 1518.00 KM²

BASIN IDENT	WATER GAGE- NO	GLAC NO	GLAC NAME	LONGIT	LATIT	UTM	ORIENTAT		ELEVATIONS M A S L				LENGTH		AREA		REMARKS	
							ACC AREA	ABL AREA	A HIGH	A LOW	A R	A TSL	DATE	A R	KM	KM2		A R
5	L1607	26	N.HÖGGE	81550	613050	32VMP6020	N	N	2050	1600	4	1750	190766	4	1.6	1.80	4	
5	L1607	27		82120	613330	32VMP6521	SW	SW	2130	1840	4	Y	0 0		1.4	.94	4	
5	L1607	28		82200	613120	32VMP6621	E	E	1950	1740	4	Y	0 0		.6	.23	4	
5	L1607	29		82350	613050	32VMP6720	NW	NW	2100	1780	4	1930	190766	4	.6	.15	4	
5	L1607	30	SENKELBR	82520	613050	32VMP6920	E	E	2130	1700	4	Y	0 0		.9	.80	4	
5	L1657	31	W.MENJURU	82730	613210	32VMP7122	SE	E	2200	1570	1	1830	190766	4	5.0	9.06	1	SWS SPEC. INVESTIG
5	L1657	32		83000	613220	32VMP7323	NE	NE	2100	1900	4	1950	190766	4	.5	.18	4	
5	L1698	33	E.MENJURU	83030	613320	32VMP7324	SE	SE	2250	1630	1	X	0 0		4.0	8.86	1	SPEC. INVESTIG
5	L1607	34		83410	613140	32VMP7721	SW	SW	2150	1950	4	Y	0 0		.7	.24	4	
5	L 867	35		84220	613130	32VMP8421	E	E	2050	1800	4	Y	0 0		1.3	.76	4	
5	L1658	36		83500	613120	32VMP7721	SE	SE	2150	1850	4	2000	190766	4	.7	.22	4	
5	L1658	37		83530	613210	32VMP7822	E	E	2250	1630	4	Y	0 0		2.5	2.72	4	WS
5	L1658	38		83640	613200	32VMP7922	SE	SE	1800	1550	4	Y	0 0		1.0	.52	4	
5	L1658	39		83710	613240	32VMP7923	E	E	1850	1750	4	Y	0 0		1.5	.74	4	
5	L1658	40	BLÅBREEN	83430	613310	32VMP7724	E	NE	2070	1590	4	X	0 0		3.5	3.74	4	
5	L1658	41		83520	613420	32VMP7826	NE	NE	1750	1590	4	1700	190766	4	.4	.11	4	B
5	L1658	42	STYGGEBR	83330	613440	32VMP7627	NE	NE	2100	1620	4	X	0 0		3.0	3.15	4	
5	01094	43	HINDHOLB	84710	613620	32VMP8831	NE	NE	1900	1800	4	Y	0 0		.2	.10	4	
5	01094	44	E.NAUTGD	84510	613620	32VMP8630	N	N	1910	1750	4	Y	0 0		1.5	.85	4	
5	01094	45	W.NAUTGD	84330	613630	32VMP8531	NE	NE	1940	1700	4	Y	0 0		1.4	.85	4	
5	01094	46	W.STYGGE	83250	613500	32VMP7527	N	E	2100	1840	4	1950	210766	4	1.7	.93	4	SWS
5	01094	47	GRÅSURRE	83610	613930	32VMP7936	NE	E	2260	1850	1	X	0 0		3.5	3.95	1	SPEC. INVESTIG
5	01094	48	E.GROTBR	83420	614000	32VMP7737	N	N	2260	1800	4	X	0 0		3.0	2.66	4	
5	01094	49		83520	614140	32VMP7840	E	E	2050	1760	3	1880	11065	3	.4	.27	3	

NOTE : This basin is affected by drainage diversion due to hydroelectric power development

Brekart for nedbørfelt:

Glacier map of drainage area :

TESSE

Tegnforklaring (Legend):

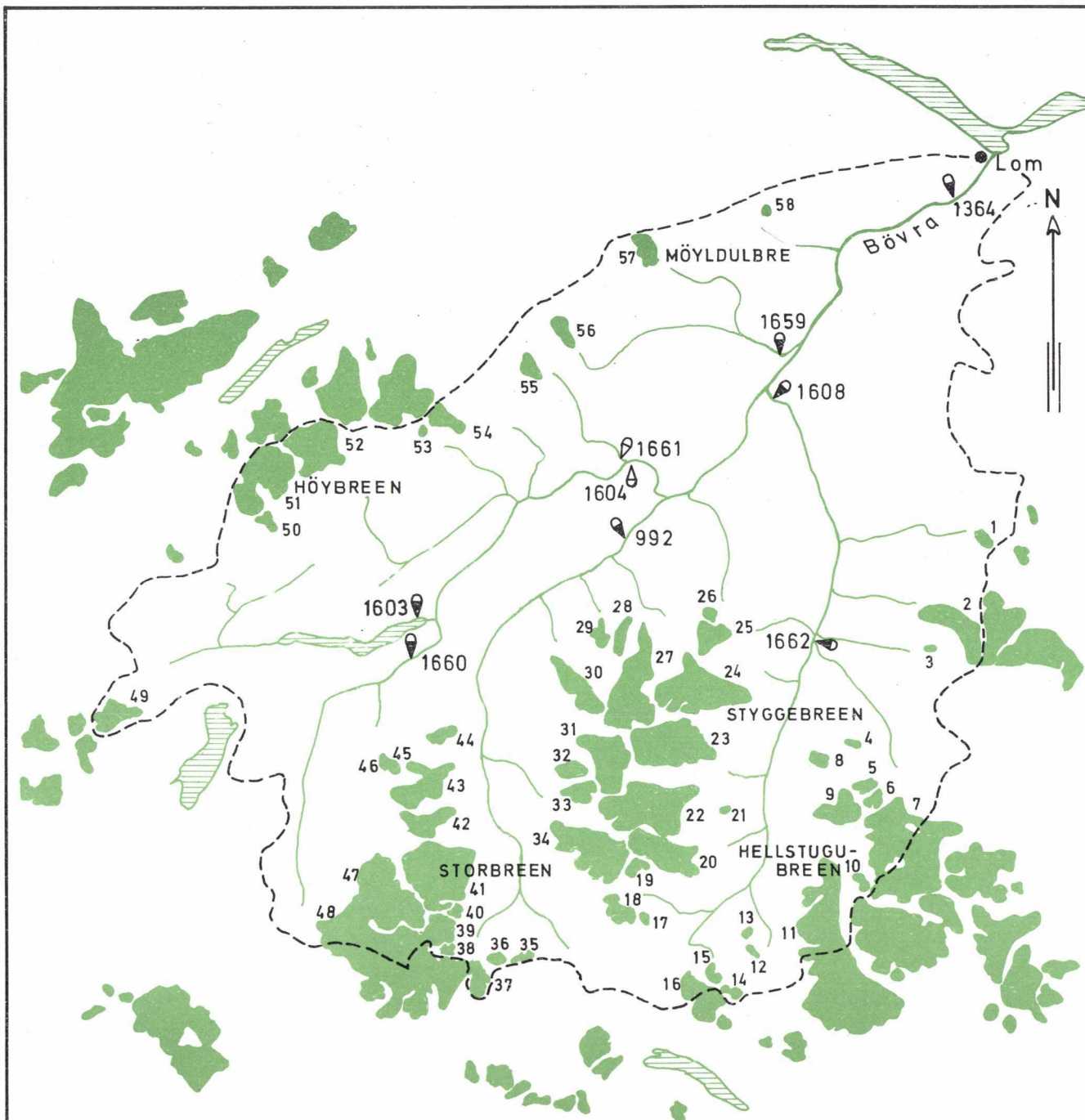
-  5 Bre (Glacier)
-  Vannskille (Watershed)
-  Overføring (Diverted water)
-  Vannmerke (Discharge station)
-  Limnigraf (Recording discharge station)
-  Magasinmerke (Water stage gauge)
-  Registr. magasinmerke (Stage recorder)

Målestokk (Scale)

1:250 000

0 5 10 15 20 km





Brekart for nedbørfelt:

Glacier map of drainage area:

BÖVRA

Tegnforklaring (Legend):

- 5 Bre (Glacier)
- Vannskille (Watershed)
- Overføring (Diverted water)
- ▽ Vannmerke (Discharge station)
- Limnigraf (Recording discharge station)
- ▽ Magasinmerke (Water stage gauge)
- ▼ Registr. magasinmerke (Stage recorder)

Målestokk (Scale)

1:250 000



GLACIER INVENTORY - SOUTHERN NORWAY

REFERENCE RIVER BASIN TESSE
DRAINAGE AREA 249.00 KM²

BASIN IDENT	WATER GAGE- NO	GLAC NO	GLAC NAME	LONGIT	LATIT	UTM	ORIENTAT ACC ABL AREA AREA	ELEVATIONS M A S L HIGH LOW R TSL DATE R	LENGTH KM	AREA KM ²	REMARKS
5	248	1		83550	614330	32VMP7841	N N	1950 1700 3 Y 0 0	.8	.18 3	

NOTE : This basin is affected by drainage diversion due to hydroelectric power development

GLACIER INVENTORY - SOUTHERN NORWAY

REFERENCE RIVER BASIN BÜVRA
DRAINAGE AREA 895.00 KM²

BASIN IDENT	WATER GAGE- NO	GLAC NO	GLAC NAME	LONGIT	LATIT	UTM	ORIENTAT ACC ABL AREA AREA	ELEVATIONS M A S L HIGH LOW R TSL DATE R	LENGTH KM	AREA KM ²	REMARKS
5	L1608	1	SMIUGJEL	83350	614150	32VMP7640	NW NW	2050 1700 4 Y 0 0	.9	.32 4	
5	L1608	2	W GROTB	83240	614000	32VMP7537	N NW	2200 1830 4 X 0 0	3.2	2.40 4	
5	L1608	3	GLITTERH	83110	613940	32VMP7436	W W	2000 1850 4 1900 210766 4	.3	.12 4	
5	L1662	4	V SKAUTB	82740	613730	32VMP7132	N N	1770 1620 4 1680 210766 4	.4	.15 4	
5	L1662	5		82910	613630	32VMP7130	NE NE	2000 1680 4 1800 210766 4	.8	.30 4	
5	L1662	6		82840	613620	32VMP7230	N N	2000 1700 4 X 0 0	.8	.40 4	
5	L1662	7	VEJBREEN	83010	613510	32VMP7328	N N	2270 1600 4 X 0 0	4.5	9.08 4	SWS
5	L1662	8		82610	613710	32VMP7031	N NW	2000 1750 4 1850 210766 4	.8	.40 4	
5	L1662	9		82720	613600	32VMP7029	NW NW	2200 1700 4 2050 210766 4	1.2	1.43 4	
5	L1662	10	DJEVLBR	82810	613430	32VMP7127	N W	2150 1800 4 1950 210766 4	1.0	.16 4	
5	L1662	11	HELLSTUG	82630	613350	32VMP7025	N N	2200 1450 1 X 0 0	3.7	4.21 3	SWS SPEC. INVESTIG
5	L1662	12		82320	613250	32VMP6724	E E	2000 1700 4 1900 210766 4	.7	.15 4	
5	L1662	13		82310	613320	32VMP6724	NE NE	1950 1750 4 1850 210766 4	.6	.16 4	
5	L1662	14		82210	613200	32VMP6622	N N	2000 1700 4 Y 0 0	.5	.25 4	
5	L1662	15		82120	613220	32VMP6523	NE NE	2050 1700 4 Y 0 0	.6	.27 4	
5	L1662	16	VISBREEN	82030	613210	32VMP6522	NW N	2080 1550 4 Y 0 0	1.3	.82 4	
5	L1662	17		81820	613335	32VMP6225	NW NW	1900 1650 4 Y 0 0	.5	.12 4	
5	L1662	18		81700	613340	32VMP6125	NE NE	1900 1600 5 1700 210766 5	.9	.83 5	MU
5	L1662	19		81740	613450	32VMP6227	S S	1950 1750 4 Y 0 0	.7	.36 4	
5	L1662	20	BUKKEHOL	81900	613500	32VMP6328	SE SE	2130 1650 4 1850 210766 4	3.2	3.10 4	
5	L1662	21		82150	613545	32VMP6629	E E	2000 1500 4 Y 0 0	.8	.22 4	PSF
5	L1662	22	TYERRÅBR	81830	613550	32VMP6330	E E	2100 1620 4 X 0 0	4.1	5.40 4	
5	L1662	23	SVELLNOS	81930	613650	32VMP6432	E SE	2200 1700 4 X 0 0	3.5	4.50 4	
5	L1662	24	STYGGEBR	82040	613840	32VMP6534	E E	3400 1700 4 X 0 0	3.9	4.60 4	
5	L1364	25		82100	613950	32VMP6537	E E	2200 1837 4 1950 210766 4	1.2	1.07 4	

GLACIER INVENTORY - OUTLINE MAP ONLY

REFERENCE RIVER BASIN ÖVR.
DRAINAGE AREA 1695.50 KM2

BASIN IDENT	WATER GAGE- NO	GLAC NO	GLAC NAME	LONGIT	LATIT	UTM	ORIENTAT ACC ABL AREA AREA	ELEVATIONS HIGH LOW	M A S L A TSL	DATE	LENGTH A R	AREA KM KM2	REMARKS	
5	L1364	26	KJELPEN	82050	614015	32VMP6537	SE SE	2050 1837	4 1940	210766	4	.5 .23	4	
5	L 992	27	STORGJUV	81730	613850	32VMP6236	N N	2250 1450	4 2000	210766	4	4.5 4.50	4	
5	L 992	28	STORGJUV	81650	613950	32VMP6237	N N	2200 1700	4 1830	210766	4	1.7 .70	4	
5	L 992	29		81550	613950	32VMP6173	N N	2030 1900	4 Y	0 0		1.1 .50	4	
5	L 992	30	H ILLÄBR	81500	0	32VMP6034	NW NW	2200 1580	4 X	0 0		3.0 1.80	4	
5	L 992	31	N ILLÄBR	81610	613630	32VMP6131	NW NW	2100 1650	4 1900	210766	4	3.0 3.06	4	
5	L 992	32		81430	613620	32VMP6931	W W	2000 1710	4 1850	210766	4	1.2 .62	4	
5	L 992	33		81500	613600	32VMP6030	W W	2220 1800	4 2000	210766	4	1.2 .80	4	
5	L 992	34	S ILLÄBR	81540	613510	32VMP6028	NW NW	2000 1800	4 1700	210766	4	3.5 4.25	4	
5	L 992	35		81230	613240	32VMP5723	NE NE	1920 1620	3 1700	210766	3	.6 .24	3	
5	L 992	36		81120	613240	32VMP5623	NW NW	1850 1620	3 1720	210766	3	.6 .32	3	
5	L 992	37		81030	613220	32VMP5623	NE N	1930 1500	3 1700	210766	3	1.4 .67	3	
5	L 992	38	BJÖRN S	80900	613250	32VMP5424	NE NE	1830 1530	3 X	0 0		.5 .15	3	
5	L 992	39	BJÖRN N	80830	613320	32VMP5425	NE NE	2000 1530	3 X	0 0		1.3 1.21	3	
5	L 992	40		80920	613340	32VMP5525	SE SE	1980 1680	3 X	0 0		.6 .20	3	
5	L 992	41	STORPRE	80830	613430	32VMP5427	NE NE	2070 1440	1 1740	210766	3	3.0 5.43	1	S
5	L 992	42	VESLEPRE	80800	613530	32VMP5429	E NE	2060 1450	3 1650	210766	3	2.4 1.58	3	
5	L 992	43	HURUPRE	80800	613610	32VMP5431	NE NE	1950 1400	3 X	0 0		3.0 2.28	3	
5	L 992	44	HÖGSKRIU	80830	613650	32VMP5432	E NE	2050 1700	3 X	0 0		1.3 .50	3	
5	L1660	45	E BRAGS	80620	613630	32VMP5231	NW NW	2040 1710	3 1850	210766	3	.6 .18	3	
5	L1660	46	W BRAGS	80550	613630	32VMP5231	NW NW	2010 1650	3 Y	0 0		.7 .18	3	
5	L1660	47	LEIKBRE	80600	613400	32VMP5226	NW NW	2100 1570	3 Y	0 0		3.5 5.32	3	SWS
5	L1660	48	BÜVERARE	80530	613300	32VMP5124	NW NW	2150 1400	3 1770	210766	3	4.8 4.65	3	SWS
5	L1603	49	LIABREEN	75330	613710	32VMP4133	NE NE	1800 1460	3 X	0 0		1.0 1.27	3	
5	L1603	50	HÖYBRE S	80040	614210	32VMP4741	E E	1650 1470	3 X	0 0		.7 .43	3	
5	L1603	51	HÖYBRE W	80040	610320	32VMP4743	SE SE	1850 1550	3 1800	11065	3	2.3 3.88	3	
5	01604	52	HÖYBRE E	80250	614340	32VMP4944	SE SE	2000 1600	3 1800	11065	3	2.0 3.35	3	WS
5	01604	53	GEITÅR W	80730	614415	32VMP5345	S S	2000 1750	3 Y	0 0		.6 .10	4	
5	01604	54	GEITÅR E	80740	614430	32VMP5445	SE SE	2000 1650	3 X	0 0		1.2 1.00	4	
5	01661	55	HESTRE	81145	614540	32VMP5747	E E	1800 1550	4 1650	11065	4	1.0 .70	5	
5	L1659	56	SULBREEN	81320	614630	32VMP5849	SE SE	1950 1590	3 1600	11065	3	1.3 .50	4	
5	L1659	57	MÖYLOVLE	81700	614510	32VMP6252	E E	2030 1650	3 Y	0 0		1.2 .90	3	
5	L1364	58		82240	614010	32VMP6754	SE SE	2000 1850	3 Y	0 0		.4 .14	3	

GLACIER INVENTORY - SOUTHERN NORWAY

SUMMARIES

REFERENCE RIVER BASIN HÜVRA
DRAINAGE AREA 895.00 KM²

NUMBER OF GLACIERS 58
NUMBER OF WATER GAGES 9

TOTAL GLACIER AREA 92.46 KM²
IN PER CENT OF DR AREA 10.33 0/0

TABLE 1
=====

WATER GAGES, THEIR TOTAL DRAINAGE-AREAS AND GLACIER-COVERED AREAS

WATER GAGE- NO	AREA KM ²	TOTAL GLACIER AREA KM ²	GL AREA IN PER CENT OF WG AREA
1608	100.00	2.84	2.84
1662	100.00	36.91	36.91
1364	752.00	1.44	.19
992	100.00	28.81	28.81
1660	100.00	10.33	10.33
1603	100.00	5.58	5.58
1604	100.00	4.45	4.45
1661	100.00	.70	.70
1659	100.00	1.40	1.40

TABLE 2
=====

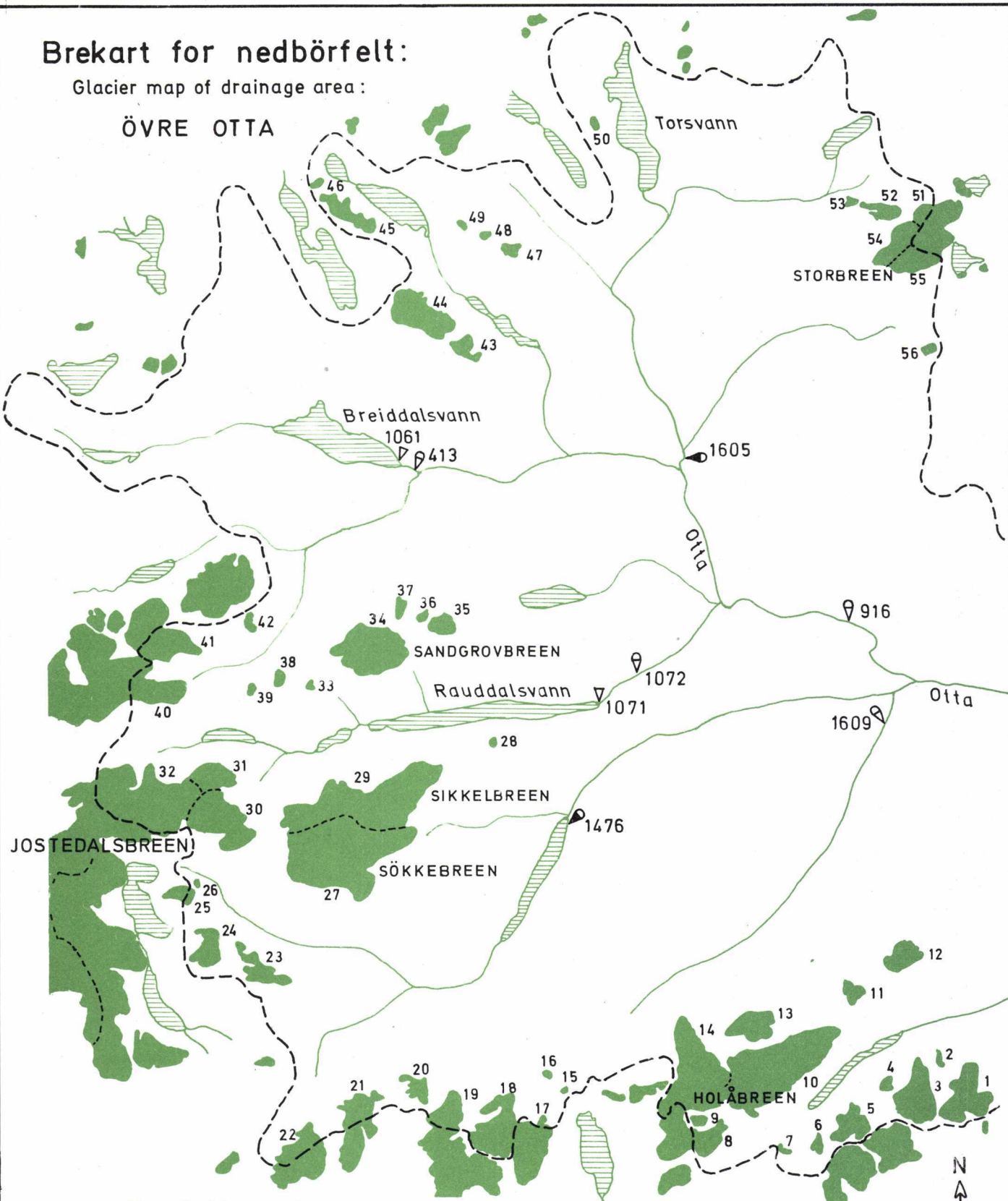
GLACIERS WITH EQUAL ABLATION-AREA ORIENTATION

ORIEN- TATION	SUM OF GLACIERS	SUM OF AREAS	SUM IN PER CENT OF TOT GL AREA
N	10	21.28	23.02
NE	12	14.22	15.38
E	8	13.47	14.57
SE	9	16.90	18.28
S	2	.46	.50
SW			
W	4	1.70	1.84
NW	13	24.43	26.42

Brekart for nedbørfelt:

Glacier map of drainage area:

ÖVRE OTTA



Tegnforklaring (Legend):

- 5 Bre (Glacier)
- Vannskille (Watershed)
- Overføring (Diverted water)
- ▽ Vannmerke (Discharge station)
- ◐ Limnigraf (Recording discharge station)
- ▽ Magasinmerke (Water stage gauge)
- ▼ Registr. magasinmerke (Stage recorder)

Målestokk (Scale)

1:250 000

0 5 10 15 20 km



GLACIER INVENTORY - SOUTHERN NORWAY

REFERENCE RIVER BASIN Øvre Ditt
DRAINAGE AREA 1945.00 KM²

BASIN IDENT	WATER GAGE- NO	GLAC NO	GLAC NAME	LONGIT	LATIT	UTM	ORIENTAT		ELEVATIONS M A S L				LENGTH AREA			REMARKS		
							ACC AREA	ABL AREA	HIGH	LOW	A R	TSL	DATE	A R	KM		KM2	A R
5	L1606	1	HEIMST-E	80630	614500	32VMP5247	NE	N	2100	1600	3	1760	11065	3	2.8	3.60	3	
5	L1606	2		80510	614600	32VMP5148	NE	NE	1800	1470	3	1650	11065	3	.4	.14	3	
5	L1606	3	YST-E BP	80400	614500	32VMP5046	NE	N	2100	1550	3	1700	11065	3	3.0	3.50	3	
5	L1606	4		80230	614520	32VMP4947	N	N	1600	1420	3	1480	11065	3	.8	.30	3	
5	L1606	5		80640	614430	32VMP4745	N	N	2100	1500	3	Y	0 0	0 0	1.6	1.70	3	
5	L1606	6		75850	614350	32VMP4644	N	N	1770	1560	3	X	0 0	0 0	1.0	.30	3	
5	L1606	7		75700	614330	32VMP4444	NE	NE	1620	1440	3	X	0 0	0 0	.3	.10	3	
5	L1606	8	HOLAB S	75300	614400	32VMP4145	E	E	1770	1500	3	1580	11065	3	1.5	1.57	3	SWS
5	L1606	9		75240	614425	32VMP4045	E	E	2000	1680	3	1830	11065	3	.8	.38	3	
5	L1606	10	HOLAB E	75700	614540	32VMP4448	NE	NE	1860	1400	3	1550	11065	3	6.0	10.50	3	SWS
5	L1606	11		80050	614735	32VMP4751	SE	SE	1900	1750	4	Y	0 0	0 0	1.0	.60	4	
5	"	12	GRJOTRE	80320	614820	32VMP5053	NE	NE	2000	1650	3	Y	0 0	0 0	1.7	1.50	3	
5	01609	13	H GJELAB	75540	614640	32VMP4350	N	N	1900	1660	3	Y	0 0	0 0	1.6	2.08	3	
5	01609	14	Y GJELAB	75230	614540	32VMP4048	N	N	2000	1450	3	1680	11065	3	4.5	7.40	3	SWS
5	01609	15		74550	614515	32VMP3447	NE	NE	1850	1650	3	1700	11065	3	.4	.08	3	
5	L1476	16		74500	614540	32VMP3444	N	N	1800	1600	3	1700	11065	3	.4	.08	3	
5	L1476	17		74440	614420	32VMP3346	NW	NW	1620	1550	3	1570	11065	3	.3	.06	4	
5	L1476	18	FORTUN W	74230	614410	32VMP3145	NE	N	2010	1460	2	1660	11065	2	3.3	4.15	2	SWS
5	L1476	19		73940	614420	32VMP2945	N	NE	1900	1380	2	1500	11065	2	3.3	3.03	2	SWS
5	L1476	20		73810	614510	32VMP2847	N	N	1700	1420	2	X	0 0	0 0	1.0	.75	2	
5	L1476	21	TVERRHTN	73520	614450	32VMP2546	NE	NE	1980	1480	2	Y	0 0	0 0	2.0	1.86	2	SWS
5	L1476	22	GREINRE	73220	614350	32VMP2245	NE	N	1820	1480	2	Y	0 0	0 0	2.0	1.40	2	SWS
5	L1476	23		73030	614810	32VMP2153	NE	NE	1760	1400	2	1540	190766	2	1.4	1.85	2	
5	L1476	24		72730	614840	32VMP1854	N	N	1720	1800	2	1660	190766	2	1.8	1.53	2	
5	L1476	25		72630	614950	32VMP1857	SE	SE	1700	1600	2	1660	190766	2	.4	.25	2	SWS

GLACIER INVENTORY - SO THE NORTHERN

REFERENCE RIVER BASIN Øvre Otta
DRAINAGE AREA 1241.00 KM2

BASIN IDENT	WATER GAGE- NO	GLAC NO	GLAC NAME	LONGIT	LATIT	DTA	ORIENTAT		ELEVATIONS M A S L				LENGTH		AREA	REMARKS		
							ACC AREA	ARL AREA	HIGH	LOW	A H	TSL	DATE	A H			KM	KM2
5	L1476	26		72640	615430	32VMP1856	NE	NE	1700	1600	2	1660	190766	2	.1	.05	2	
5	L1476	27	SØKKERRE	73430	615450	32VMP2558	S	S	1920	1380	2	1720	190766	2	4.0	13.00	2	SWS
5	01071	28		74210	615340	32VMP3163	N	N	1500	1320	2	1400	190766	2	.4	.10	2	
5	01071	29	SIKKELØR	73530	615140	32VMP2560	N	N	1920	1300	2	1800	190766	2	4.5	11.15	2	SWS
5	01071	30	SYGNESKØ	72800	615120	32VMP1959	NE	NE	1720	1280	2	1580	190766	2	2.8	4.60	2	JB
5	01071	31	SYGNESKØ	72800	615210	32VMP1961	E	E	1720	1360	2	1600	190766	3	2.0	1.90	2	JB
5	01071	32	SYGNESKØ	72400	615140	32VMP1660	N	N	1720	1060	2	1580	190766	2	3.0	9.50	2	JB
5	01071	33		73300	615500	32VMP2355	E	E	1700	1500	2	Y	0 0		.4	.14	2	PSF
5	01071	34	SANDGRØV	73500	615450	32VMP2667	E	SE	1900	1520	2	1660	190766	2	3.4	5.65	2	
5	0 916	35		73940	615630	32VMP2968	NE	N	1860	1480	2	1640	190766	2	1.2	.90	5	
5	0 916	36		73840	615640	32VMP2869	NE	NE	1840	1540	2	1640	190766	2	.6	.15	2	
5	916	37		73730	615700	32VMP2769	N	N	1820	1540	3	1640	190766	2	.9	.36	3	
5	916	38		73120	615515	32VMP2266	N	N	1820	1460	2	1640	190766	2	.8	.30	2	
5	916	39		72950	615500	32VMP2165	NE	NE	1760	1540	2	X	0 0		.5	.16	2	PSF
5	916	40		72440	615500	32VMP1666	E	E	1730	1300	2	1500	190766	2	2.5	2.77	2	SWS
5	916	41		72520	615600	32VMP1768	NE	E	1880	1240	2	1580	190766	2	3.0	2.83	2	SWS
5	916	42		72940	615640	32VMP2169	SE	SE	1800	1500	2	Y	0 0		.5	.20	2	
5	0 916	43		74100	620320	32VMP3181	NE	NE	1700	1500	2	Y	0 0		1.0	.74	2	PSF
5	0 916	44		73840	620410	32VMP2982	NE	NE	1830	1330	2	Y	0 0		1.8	3.70	2	
5	0 916	45		73500	620540	32VMP3587	NE	NE	1800	1420	2	Y	0 0		.9	1.70	2	
5	0 916	46		73330	620720	32VMP3488	NE	NE	1700	1420	2	Y	0 0		.7	.20	2	
5	L1605	47		74320	620540	32VMP3384	NE	NE	1740	1430	2	Y	0 0		.9	.46	2	
5	L1605	48		74210	620605	32VMP3286	N	N	1720	1500	2	Y	0 0		.6	.13	2	
5	L1605	49		74110	620620	32VMP3186	NE	NE	1700	1500	2	Y	0 0		.4	.15	2	
5	L1605	50		74750	620840	32VMP3791	E	E	1720	1580	2	Y	0 0		.5	.20	2	
5	L1605	51	AV STØRØ	80440	620630	32VMP5186	NW	NW	1900	1840	2	Y	0 0		.8	.46	2	SWS
5	L1605	52		80220	620640	32VMP4986	N	N	1900	1540	2	Y	0 0		1.0	1.00	2	
5		53		80100	620650	32VMP4887	N	N	1700	1520	2	Y	0 0		.3	.20	2	
5		54	AV STØRØ	80390	620550	32VMP5085	W	W	1940	1770	2	Y	0 0		1.0	1.40	2	SWS
5		55	AV STØRØ	80400	620530	32VMP5184	SE	S	1940	1770	2	Y	0 0		12.0	1.80	2	SWS
5		56		80500	620310	32VMP5180	N	N	1900	1640	2	Y	0 0		.5	.22	2	

Brekart for nedbörfelt:

Glacier map of drainage area :

JORA

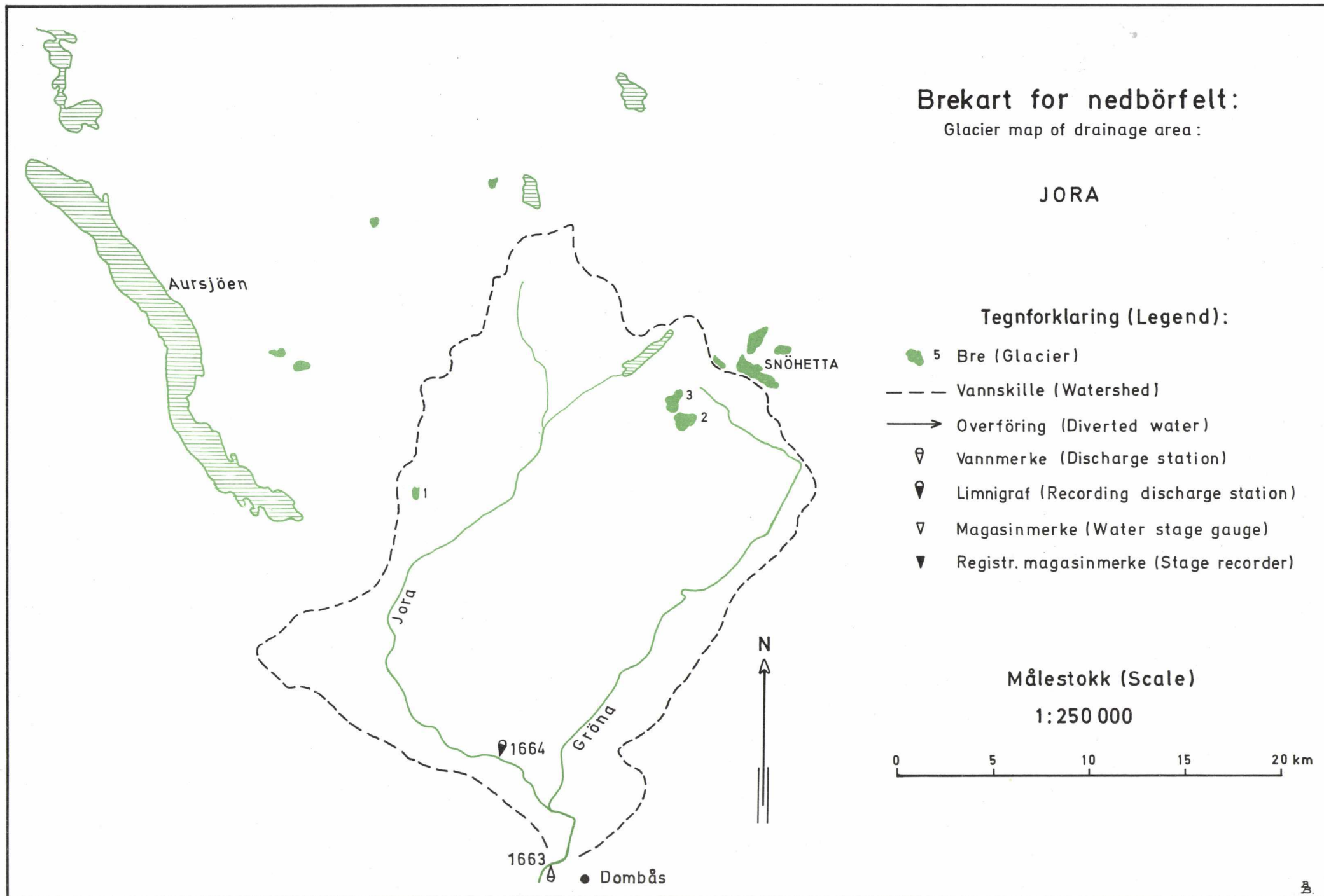
Tegnforklaring (Legend):

-  5 Bre (Glacier)
-  Vannskille (Watershed)
-  Overføring (Diverted water)
-  Vannmerke (Discharge station)
-  Limnigraf (Recording discharge station)
-  Magasinmerke (Water stage gauge)
-  Registr. magasinmerke (Stage recorder)

Målestokk (Scale)

1:250 000

0 5 10 15 20 km



GLACIER INVENTORY - SOUTHERN URUGUAY

REFERENCE RIVER BASIN 002
DRAINAGE AREA 457.43 KM2

BASIN IDENT	WATER GAGE- NO	GLAC NO	GLAC NAME	LONGIT	LATIT	DTM	ORIENTAT		ELEVATIONS M A S L				LENGTH		AREA		REMARKS	
							ACC AREA	ABL AREA	HIGH	LOW	A R	TSL	DATE	A R	KM	KM2		A R
5	L1664	1		75600	621520	32VMQ9602	SF	SE	1820	1620	2				.3	.14	2	
5	1663	2		71200	621720	32VMQ1006	E	E	1800	1540	2	1670	300763	2	1.1	.73	2	
5	1663	3		71130	621750	32VMQ 907	NE	NE	1880	1570	2	1680	300763	2	1.1	.63	2	

GLACIERS IN THE HALLINGDAL DRAINAGE-BASIN

Basin number: 43

&

GLACIERS IN THE SKIENSELV DRAINAGE-BASIN

Basin number: 78

Brekart for nedbørfelt:

Glacier map of drainage area:

HALLINGDAL

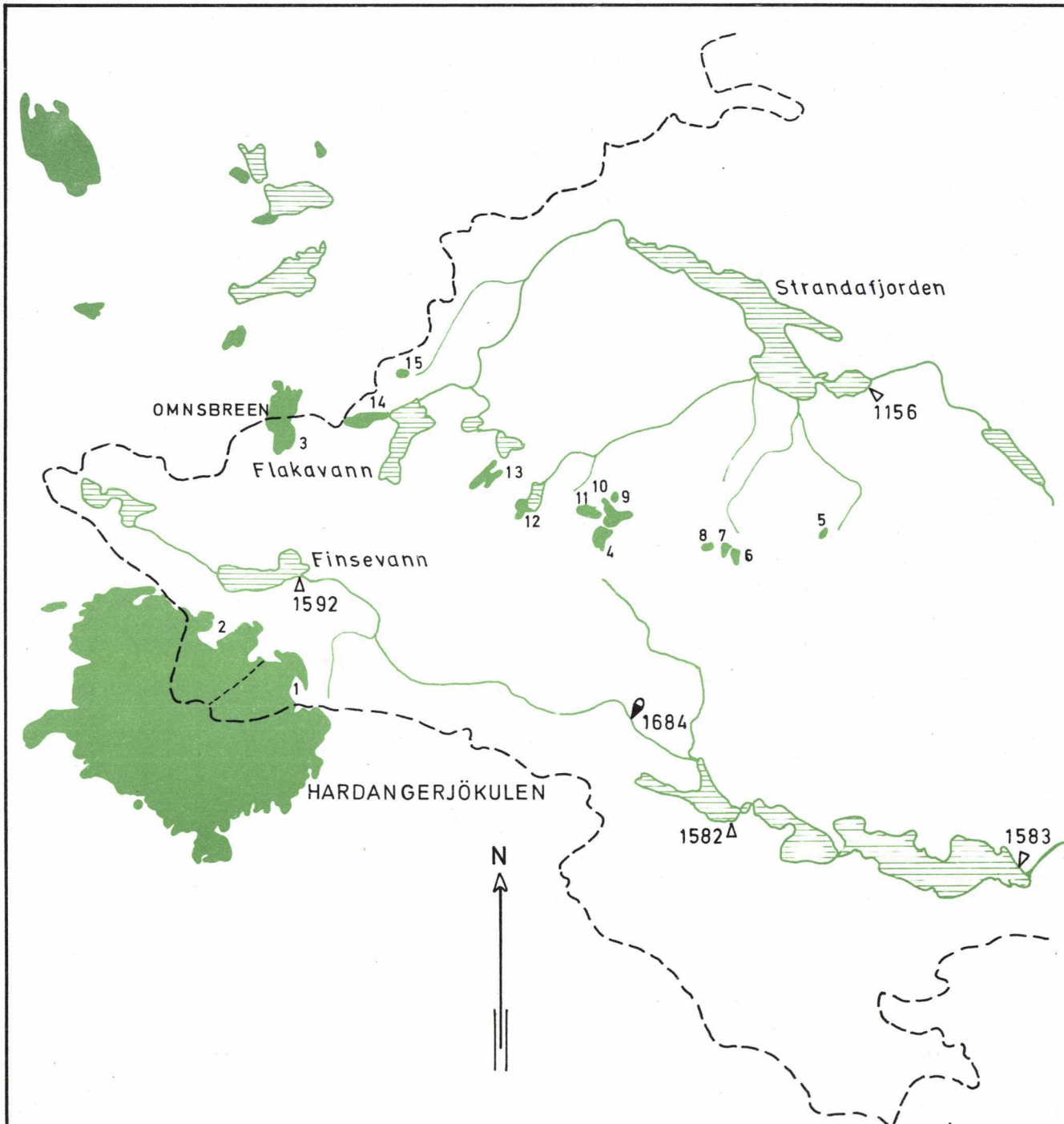
Tegnforklaring (Legend):

-  5 Bre (Glacier)
-  Vannskille (Watershed)
-  Overføring (Diverted water)
-  Vannmerke (Discharge station)
-  Limnigraf (Recording discharge station)
-  Magasinmerke (Water stage gauge)
-  Registr. magasinmerke (Stage recorder)

Målestokk (Scale)

1:250 000

0 5 10 15 20 km



Brekart for nedbørfelt:

Glacier map of drainage area:

SKIENSVASSDRAGET

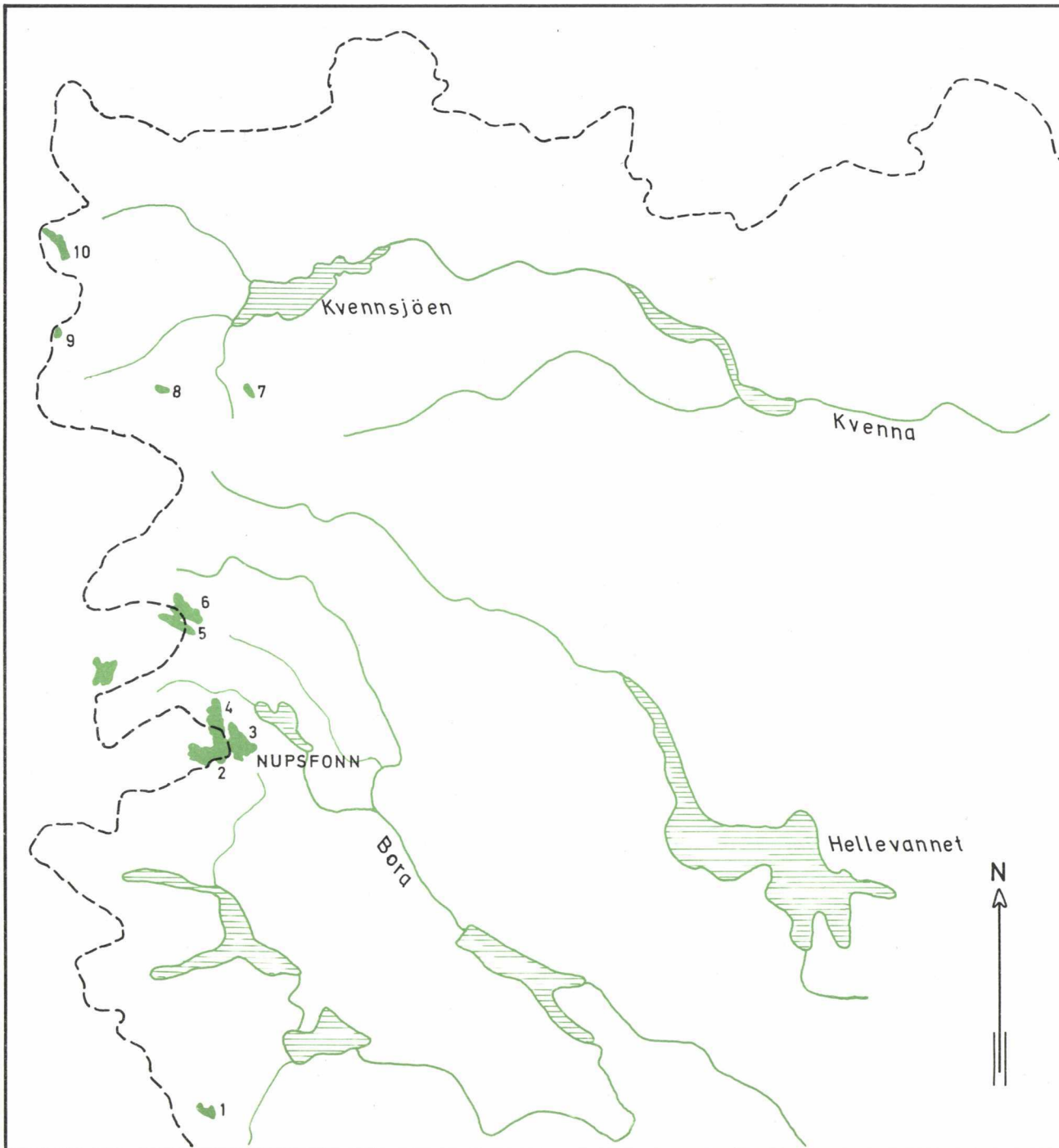
Tegnforklaring (Legend):

-  5 Bre (Glacier)
- Vannskille (Watershed)
- Overføring (Diverted water)
-  Vannmerke (Discharge station)
-  Limnigraf (Recording discharge station)
-  Magasinmerke (Water stage gauge)
-  Registr. magasinmerke (Stage recorder)

Målestokk (Scale)

1:250 000

0 5 10 15 20 km



GLACIER INVENTORY - SOUTHERN NORWAY

REFERENCE RIVER BASIN HALLINGDAL
DRAINAGE AREA 4775.00 KM2

BASIN IDENT	WATER GAGE- NO	GLAC NO	GLAC NAME	LONGIT	LATIT	UTM	ORIENTAT ACC ABL AREA AREA	ELEVATIONS HIGH LOW	M A	S L	DATE	LENGTH KM	AREA KM2	REMARKS
43	L1684	1	BLAISEN	72900	603330	32VMN1616	NE NE	1850 1370	2	X	0 0	4.5	6.10	2 HJ
43	L1684	2	BUKKESKN	72800	603400	32VMN1515	N NE	1850 1310	2	X	0 0	5.0	9.40	2 HJ
43	L1684	3	OMNSBR S	72930	603840	32VMN1725	S S	1410 1330	4	Y	0 0	1.3	1.00	4 SWS
43	L1684	4	HELLEV S	74410	603610	32VMN3020	S S	1800 1630	4	Y	0 0	1.0	.50	4
43	L1156	5	REVUFONN	75430	603620	32VMN4020	NE NE	1700 1500	4 1650		270866 4	.5	.07	4
43	L1156	6		75040	603600	32VMN3619	N N	1770 1520	4 1600		270866 4	.6	.15	4
43	L1156	7		75005	603600	32VMN3619	NE NE	1740 1550	4 1600		270866 4	.5	.14	4
43	L1156	8		74910	603600	32VMN3519	N N	1650 1500	4 1570		270866 4	.2	.08	4
43	L1156	9	HELLEV N	74440	603650	32VMN3121	N N	1700 1550	4	Y	0 0	.4	.08	4
43	L1156	10	HELLEV E	74440	603640	32VMN3121	N N	1800 1600	4	Y	0 0	1.3	.70	4 PSF
43	L1156	11	HELLEV W	74320	603640	32VMN3021	N N	1770 1600	4	Y	0 0	.5	.40	4
43	L1156	12	LJOTEFTN	74040	603640	32VMN2721	NE NE	1740 1500	4	Y	0 0	.7	.35	4
43	L1156	13		73900	603715	32VMN2622	NE NE	1700 1530	4	Y	0 0	1.5	.50	4 PSF
43	L1156	14	FLAKVASS	73330	603915	32VMN2125	N E	1730 1450	4 1670		270866 4	1.5	.67	4
43	L1156	15	STORFONN	73500	604010	32VMN2227	NE NE	1600 1550	4	Y	0 0	.4	.10	4

GLACIER INVENTORY - SOUTHERN NORWAY

REFERENCE RIVER BASIN SKIENSVASSDRAGET
DRAINAGE AREA 10295.00 KM2

BASIN IDENT	WATER GAGE- NO	GLAC NO	GLAC NAME	LONGIT	LATIT	UTM	ORIENTAT ACC ABL AREA AREA	ELEVATIONS HIGH LOW	M A	S L	DATE	LENGTH KM	AREA KM2	REMARKS
78	0	1		70330	594550	0	0 E E	1560 1350	2	Y	0 0	.5	.23	2
78	0	2	AV NUPSF	70920	595355	0	0 S S	1600 1500	2	Y	0 0	.3	.05	2 SWS
78	0	3	AV NUPSF	71000	595410	0	0 SE SE	1600 1470	2	Y	0 0	1.3	.82	2 SWS
78	0	4	AV NUPSF	70900	595440	0	0 N N	1600 1470	2	Y	0 0	1.2	.50	2 SWS
78	0	5		70750	595620	0	0 NE E	1680 1530	2	Y	0 0	.5	.17	2 SWS
78	0	6		70710	595650	0	0 NE NE	1650 1590	2	Y	0 0	.4	.45	2 WS
78	0	7		71100	600125	0	0 NE NE	1520 1440	2	Y	0 0	.1	.06	2 PSF
78	0	8		70630	600140	0	0 N N	1550 1440	2	Y	0 0	.2	.08	2 PSF
78	0	9		70200	600250	0	0 NE NE	1540 1420	2	Y	0 0	.3	.06	2
78	0	10		70210	600450	0	0 NE NE	1560 1390	2	Y	0 0	.4	.30	2

Brekart for Jostedalsbreen

Glacier map of Jostedalsbreen

Tegnforklaring (Legend):



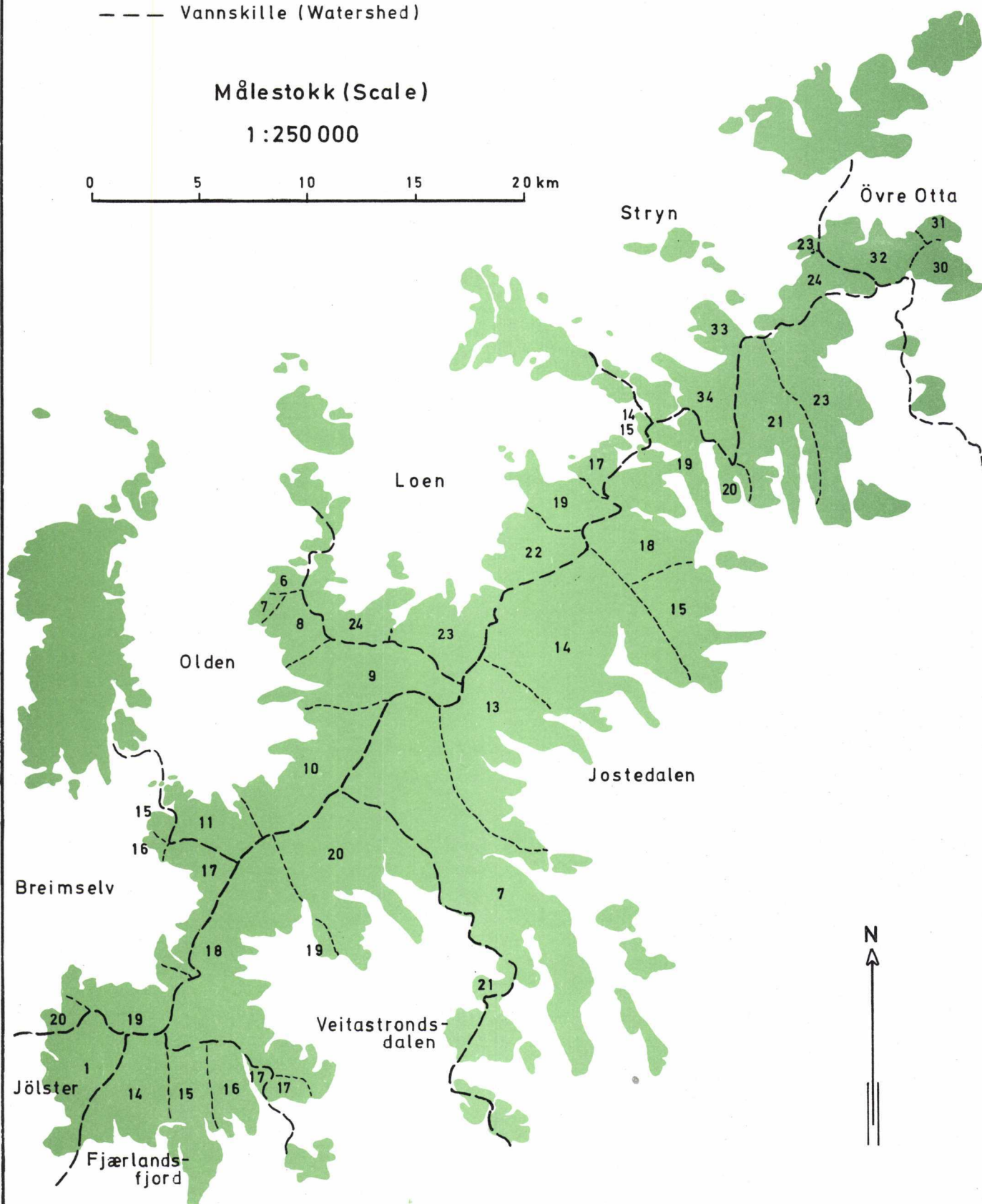
Del av breen (Part of the ice-cap)

--- Vannskille (Watershed)

Målestokk (Scale)

1:250 000

0 5 10 15 20 km



GLACIER INVENTORY - SOUTHERN NORWAY

JOSTEDALSHEEN

BASIN IDENT	WATER GAGE- NO	GLAC NO	GLAC NAME	LONGIT	LATIT	UTM	ORIENTAT		ELEVATIONS M A S L				LENGTH AREA			REMARKS	BASIN NAME		
							ACC AREA	ABL AREA	HIGH	LOW	A P	TSL	DATE	A R	KM			KM2	A R
5	01071	30	SYGNESKB	72800	615120	32VMP1959	NE	NE	1720	1280	2	1580	190766	2	2.8	4.60	2	JB	OTTA Ø
5	01071	31	SYGNESKB	72800	615210	32VMP1961	E	E	1720	1360	2	1600	190766	3	2.0	1.90	2	JB	OTTA Ø
5	01071	32	SYGNESKB	72400	615140	32VMP1660	N	N	1720	1060	2	1580	190766	2	3.0	9.50	2	JB	OTTA Ø
310	L1405	7	TUNSBERG	70300	613620	32VLP9632	SE	SE	1900	550	1	1450	210766	3	18.5	48.00	2	JB	JOSTED SPEC INVESTIG
310	0	13	BERGSETR	70230	613960	32VLP9638	E	E	1950	580	2	1600	210766	3	5.0	23.00	2	JB	JOSTED
310	L1408	14	NIGARDSB	70800	613700	32VMP 141	SE	SE	1950	295	1	X	0	0	9.0	47.03	1	JB	JOSTED SPEC INVESTIG
310	L1121	15	FÄBERGST	71400	613810	32VMP 644	E	E	1810	650	2	1480	210766	3	7.0	17.40	2	JB	JOSTED
310	L1121	18	AV JØSDB	71200	614010	32VMP 549	N	N	1980	880	2	X	0	0	2.0	8.70	2	JB	JOSTED
310	L1121	19	LODALSBR	71430	614700	32VMP 751	E	SE	1960	720	2	Y	0	0	7.0	12.00	2	JB	JOSTED
310	L1121	20	AV JØSDB	71650	614655	32VMP 951	S	S	1900	1440	2	1550	190766	3	2.0	2.60	2	JB	JOSTED
310	L1121	21	STEGHOLT	71900	614800	32VMP1153	SE	SE	1870	740	2	Y	0	0	7.0	16.70	2	JB	JOSTED
310	L1121	23	AV JØSDB	72100	614850	32VMP1354	E	E	1750	1160	2	1400	190766	3	5.0	20.20	2	JB	JOSTED
312	0 613	17	AV JØSDB	65330	613120	32VLP8722	S	S	1680	1280	2	1470	210766	3	1.5	1.95	2	JB	VEITAS
312	0 613	18	LANGEDAL	65040	613350	32VLP8527	E	E	1870	540	2	X	0	0	4.0	33.00	2	JB	VEITAS
312	0 613	19	AV JØSDB	65530	613500	32VLP8929	SW	SW	1660	1440	2	1550	210766	3	1.2	1.40	2	JB	VEITAS
312	0 613	20	AUSTERDL	65600	613630	32VLP9033	SE	SE	1910	400	2	X	0	0	8.5	28.00	2	JB	VEITAS
312	0 613	21	AV JØSDB	70450	613400	32VLP9827	S	W	1680	1260	2	Y	0	0	3.0	2.00	2	JB	VEITAS
330	0	14	BØYUMSBR	64520	613130	32VLP8023	S	S	1730	1140	2	X	0	0	5.0	15.25	2	JB	FJARLD
330	01532	15	SUPPHELL	64830	613100	32VLP8322	S	S	1730	700	2	X	0	0	8.2	12.30	2	JB	FJARLD
330	01556	16	V SUPPHL	65000	613100	32VLP8523	SE	S	1730	900	2	X	0	0	4.7	7.20	2	JB	FJARLD
330	01556	17	AV JØSDB	65200	613140	32VLP8623	W	W	1620	1380	2	1450	210766	3	1.0	1.00	2	JB	FJARLD
346	0 617	1	AV JØSDB	64220	613130	32VLP7723	W	W	1650	1060	2	1300	210766	3	4.0	12.60	2	JB	JØLSTR
369	L 932	15	AV JØSDB	64650	613800	32VLP8235	NW	NW	1730	1150	2	1520	210766	3	1.3	1.05	2	JB	BREIMS
369	L 932	17	AV JØSDB	65000	613650	32VLP8432	W	W	1840	1060	2	X	0	0	2.6	9.60	2	JB	BREIMS
369	L 932	19	AV JØSDB	64500	613330	32VLP8027	NW	NW	1720	1060	2	1500	210766	3	2.3	10.20	2	JB	BREIMS
369	L 932	20	AV JØSDB	64200	613310	32VLP7726	W	NW	1650	1160	2	Y	0	0	2.0	2.90	2	JB	BREIMS
371	0 621	6	AV JØSDB	65830	614400	32VLP8846	NW	NW	1800	1170	2	1540	210766	3	1.8	1.80	2	JB	OLDEN
371	0 621	7	AV JØSDB	65740	614320	32VLP8745	W	W	1700	1500	2	Y	0	0	1.5	.80	2	JB	OLDEN
371	0 621	8	AV JØSDB	65840	614300	32VLP8844	S	SW	1700	1300	2	X	0	0	2.2	6.68	2	JB	OLDEN
371	0 621	9	AV JØSDB	65700	614120	32VLP9141	W	W	1950	400	2	X	0	0	9.0	22.00	2	JB	OLDEN
371	0 621	10	BRIGSDAL	65500	613920	32VLP8937	W	W	1900	480	2	1550	210766	3	7.0	18.50	2	JB	OLDEN
371	0 621	11	MELKEVØL	64940	613830	32VLP8435	N	N	1860	700	2	1540	210766	3	3.0	8.60	2	JB	OLDEN
372	0 622	14	AV JØSDB	71230	614750	32VMP 553	W	W	1900	1500	2	Y	0	0	.6	.64	2	JB	LOEN
372	0 622	15	AV JØSDB	71200	614725	32VMP 452	W	W	1960	1640	2	Y	0	0	.5	.20	2	JB	LOEN
372	0 622	17	BRATTERK	71000	614700	32VMP 351	N	N	1820	1400	2	Y	0	0	2.0	3.00	2	JB	LOEN
372	0 622	19	BØDALSBR	70740	614610	32VMP 149	NW	N	1920	700	2	X	0	0	5.5	8.30	2	JB	LOEN
372	0 622	22	KRUNERRE	70600	614440	32VLP9947	W	W	1900	1100	2	X	0	0	6.0	11.00	2	JB	LOEN
372	0 622	23	KJENNØDAL	70130	614240	32VLP9543	N	N	1950	300	2	X	0	0	7.5	19.40	2	JB	LOEN
372	0 622	24	AV JØSDB	65900	614415	32VLP9346	E	E	1680	1400	2	Y	0	0	.6	.15	2	JB	LOEN
373	L1678	23	AV JØSDB	72130	615220	32VMP1361	N	N	1670	1200	2	1520	210766	3	1.0	1.00	2	JB	STRYN
373	L1678	24	SYGNESKD	72100	615130	32VMP1359	W	NW	1740	1240	2	X	0	0	4.5	7.50	2	JB	STRYN
373	L1678	32	AV JØSDB	70930	615625	32VMP 263	N	N	1550	1300	2	Y	0	0	.5	.14	2	JB	STRYN
373	L1678	33	VESLEØDAL	71600	615030	32VMP 857	N	NW	1700	1120	1	1500	210766	3	3.0	4.22	1	JB	STRYN SPEC INVESTIG
373	L1678	34	ERDALSBR	71550	614850	32VMP 854	NW	NW	1790	860	1	Y	0	0	6.5	11.00	1	JB	STRYN SPEC INVESTIG

GLACIER INVENTORY - SOUTHERN NORWAY

SUMMARIES

JOSTEDALSPREEN

NUMBER OF SUBDIVISIONS 44
NUMBER OF QUOTED WATER GAGES 12

TOTAL GLACIER AREA 475.01 KM2

TABLE 1
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WATER GAGES, THEIR TOTAL DRAINAGE-AREAS AND GLACIER-COVERED AREAS

WATER GAGE- NO	AREA KM2	TOTAL GLACIER AREA KM2	GL AREA IN PER CENT OF WG AREA
1071	100.00	16.00	16.00
1405	100.00	48.00	48.00
1408	100.00	47.03	47.03
1121	100.00	77.60	77.60
613	366.00	66.35	18.13
1532	100.00	12.30	12.30
1556	100.00	8.20	8.20
617	367.00	12.60	3.43
932	569.00	23.75	4.17
621	210.00	58.38	27.80
622	260.00	42.69	16.42
1678	100.00	23.86	23.86
SUM OF SUBDIVISIONS WITHOUT WATER GAGES 2			

TABLE 2
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GLACIERS WITH EQUAL ABLATION-AREA ORIENTATION

ORIENTA- TION	SUM OF GLACIERS	SUM OF AREAS	SUM IN PER CENT OF TOT GL AREA
N	8	58.64	12.35
NE	1	4.60	.97
E	6	95.65	20.14
SE	5	151.73	31.94
S	5	39.20	8.27
SW	2	8.8	1.7
W	10	78.34	16.49
NW	7	38.67	8.14

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